

REMARKS

The Examiner's continued attention to the application is noted with appreciation.

In the third paragraph of page 2 of the Office Action of May 18, 2005, the Examiner rejected claims 1, 2, 4, 5, 7, 8, and 11 under 35 U.S.C. § 102(b) as being anticipated by Stone ("Status of Glass Reflector Technology for Heliostats and Concentrators"). The rejection is traversed, particularly as to the claims as amended.

Regarding claim 1, Stone does not appear to teach a curved mirror. Claim 1 has been amended to clarify that feature which was already present in claims 12 and 25. Also, Stone does not specifically teach that the front sheet and the back sheet are preferably of a similar material or otherwise comprise a similar thermal expansion coefficient. Such a feature is disclosed in the specification at page 7, lines 10-21. This feature is important to maintain good optical characteristics over a range of ambient temperatures.

Therefore, claim 1 is neither anticipated nor suggested by Stone. Claims 2, 4, 5, 7, 8, and 11 are dependent on claim 1 and are therefore neither anticipated nor suggested by Stone.

In the penultimate paragraph of page 3, the Examiner rejected claims 3, 6, and 9 under 35 U.S.C. § 103(a) as being unpatentable over Stone in light of what is "extremely well known in the art". Applicant is unaware of how it is extremely well known with regard to the claimed parameters of each of claims 3, 6, and 9, and the Examiner has not cited to any references or evidence for making the statements. Nevertheless, claims 3, 6, and 9 are dependent on claim 1 and so are not anticipated, and are patentable over Stone.

In the penultimate paragraph of page 4, the Examiner rejected claims 10, 12-25, and 27-29 under 35 U.S.C. § 103(a) as being unpatentable over Stone in view of Nicolas (U.S. Patent No. 4,320,164). That rejection is traversed. Nicolas does not cure the deficiencies of Stone noted above. Moreover, as discussed in more detail below, Nicolas teaches the use of foam for a different purpose than that of the

present invention. Therefore, it would not be obvious to combine Nicolas with Stone to teach the present invention.

With regard to claims 12 and 25, Nicolas teaches the use of a mandrel to position multiple mirrors (all of which appear in the Figures to not be curved) in such a way as to create an overall curved structure. The present invention uses a mandrel to create a curvature in a mirror and in the overall composite structure as pressure (e.g., vacuum in claim 15; expanding pressure in claim 25) is applied to the composite structure. Claim 12 is amended to clarify the use of pressure to form the curvature. Nicolas does not use the mandrel to create a curvature in a mirror. Therefore, combining the use of the mandrel of Nicolas with the device of Stone would not lead to the present invention. Moreover, Nicolas, in using a mandrel to align multiple, planar mirrors, teaches away from the present invention. In effect, Nicolas does not teach a curvature in a mirror, but rather the use of planar mirrors positioned over a curved mandrel. Therefore, claims 12 and 25 are patentable.

Further, Nicolas does not teach the use of foam material to expand and put pressure on a composite structure to form a curvature. The use of the foam material according to the present invention is not taught by Nicolas alone or in combination with Stone.

Claim 13 is dependent on claim 1 and is therefore patentable.

With regard to claims 14 and 24, the Examiner states that Nicolas teaches a mandrel to form a curvature in a mirror. Nicolas does not teach forming a curvature in a mirror. As noted by the Examiner, Nicolas teaches many small mirrors stacked atop the mandrel. Applicant notes that those mirrors appear to be planar. The Examiner states that each mirror can be considered a solar collector and that therefore Nicolas teaches many small mirrors stacked atop the mandrel. However, the present invention teaches a composite solar collector panel with a curved mirror, not multiple planar mirrors. Also, as recited in claim 14 and depicted in the Figures, the composite structures, each with its own mirror, are stacked upon each other as well as on the mandrel. Claim 14 has been amended to clarify that the composite structures are stacked upon each other. Because the mirrors of Nicolas are not stacked upon each other, Nicolas does not teach the simultaneous formation of several composite solar collectors, but rather one composite

structure at a time comprising many mirrors. The present invention, unlike Nicolas, comprises the quick and economical manufacture of multiple composite structures using a stacking approach.

Unlike as recited in claim 24 of the present invention, Nicolas does not teach a double-sided, curved mandrel for the formation of several composite solar collectors. Therefore, claims 14 and 24 are non-obvious, and are also non-obvious as they are dependent on claims 1 and 12, respectively.

With regard to claims 15 and 16, the Examiner states that use of vacuum is well-known to create optical elements and takes Official Notice. However, the Examiner provides no reference or evidence of such knowledge in the art that would be applicable to the use of vacuum herein or how there would be motivation to make the combination. Any knowledge in the use of vacuum as a tool would not alone teach how to use the tool as is done in the present invention. Also, claims 15 and 16 are dependent on claim 12. Therefore, claims 15 and 16 are patentable.

Claims 17, 18, and 19 are dependent on claim 12 and therefore are patentable.

Regarding claims 20 and 29, the Examiner states that the use of the claimed gauge of the steel is well-known in the art. However, the Examiner cites to no reference or evidence regarding that knowledge or how it applies to, or motivates, the present invention. Moreover, claims 20 and 29 are dependent on claims 12 and 25, respectively. Therefore, claims 20 and 29 are patentable.

Claim 22 is dependent on claim 12 and therefore is patentable.

Regarding claims 23, the Examiner states that the use of the claimed thickness of aluminum is well-known in the art. However, the Examiner cites to no reference or evidence regarding that knowledge or how it applies to, or motivates, the present invention. Moreover, claim 23 is dependent on claim 12. Therefore, claim 12 is patentable.

In view of the above remarks, it is respectfully submitted that all grounds of rejection have been traversed. It is believed that the application is now in condition for allowance and same is respectfully requested.

If any issues remain, or if the Examiner believes that prosecution of this application might be expedited by discussion of the issues, the Examiner is cordially invited to telephone the undersigned

attorney for Applicant at the telephone number listed below.

Respectfully submitted,

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